

CLAIMS

I claim:

1. a pedal having:

- (a) a pedal spindle for attachment to a crankarm,
- (b) a clipless shoe binding on both an upper shoe-facing side, and a lower ground-facing side of said pedal spindle, said clipless shoe bindings being from the group of shoe bindings comprising a mechanism which engages and affixes to a cleat mounted to and recessed within a shoe sole,
- (c) a shoe-supporting surface on both an upper shoe-facing side, and a lower ground-facing side of said pedal spindle, each said shoe supporting surface at least partially surrounding each said binding, wherein the improvement comprises the addition of:
- (d) a rider actuated relative height variability linkage, rotatably affixed to said pedal spindle, connecting said shoe supporting surfaces and said clipless shoe bindings to said pedal spindle, which provides for sufficiently varying the relative height between each said clipless shoe binding and each corresponding said shoe supporting surface on the same side of said pedal spindle to either position and securely hold the uppermost surfaces of said bindings either sufficiently level with or lower than said corresponding shoe supporting surfaces to allow said corresponding shoe supporting surface to support a shoe sole without contact of either said sole or sole recessed cleat on said corresponding binding, hereby referred to as an unbound mode of operation, or to position and securely hold said clipless shoe bindings sufficiently higher than said corresponding shoe supporting surfaces to allow said sole recessed cleat to engage and affix to said clipless shoe binding without contact of said shoe sole on said corresponding shoe supporting surface, hereby referred to as a clipless binding mode of operation, said height being defined generally as the shortest (perpendicular) distance from said pedal spindle axis to a plane both parallel to said pedal spindle axis and tangent to either said shoe supporting surface at the location of shoe sole contact or to said uppermost surfaces of said clipless shoe bindings, at the location of shoe sole or cleat contact.

- 2. The pedal of claim 1, wherein said rider actuated relative height variability linkage operates on both said upper shoe-facing bindings and said corresponding shoe supporting surfaces, and said lower ground-facing bindings and said corresponding shoe supporting surfaces simultaneously, upon a single actuation of said rider actuated relative height variability linkage mechanism.
- 3. The pedal of claim 1, wherein said rider actuated relative height variability linkage either extends said clipless shoe bindings above, or retracts said clipless shoe bindings sufficiently below said corresponding shoe supporting surfaces, to allow the pedal to be used in either said clipless binding mode, or in said unbound mode, said shoe supporting surfaces being fixed in height relative to said pedal spindle axis.
- 4. The pedal of claim 1, wherein said relative height variability linkage either extends said shoe supporting surfaces sufficiently above, or retracts said shoe supporting surfaces sufficiently below said corresponding clipless shoe bindings, to allow the pedal to be used in either said clipless binding mode, or in said unbound mode, said clipless shoe bindings being fixed in height relative to said pedal spindle axis of said pedal.

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5. The pedal of claim 1, having additionally, a mechanism for automatically changing the relative height of said clipless shoe bindings to be sufficiently level with or below said corresponding shoe supporting surfaces to allow usage of the pedal in said unbound mode, of said clipless shoe binding cleat from said clipless shoe binding.
6. The pedal of claim 1, wherein each said shoe supporting surface is comprised of a set of surfaces to form a single shoe supporting surface.
7. The pedal of claim 1, wherein said height variability linkage is present on only one side of the pedal, and a fixed height shoe supporting surface is present on the other side of the pedal.

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